

REMARKS

In the present application, claims 1-29 are pending. Claims 1-29 are rejected. Claims 1-29 are believed to be in condition for allowance.

Claim Rejections – 35 USC § 103

The Examiner rejected claims 1, 15, and 29 as being unpatentable over Demetrescu et al. (6,647,262) in view of Ida et al. (Pub. No. 2002/0082036).

Specifically, the Examiner asserted that Demetrescu et al. teaches “determining if a location procedure is ongoing in the mobile station (C2, L1-24, L56-67, C3, L17-55, teach radio transmission in handover and selected cell wherein measurement are report back to network which means as determining if a location procedure is ongoing in the mobile station).” The Examiner further allows that “Demetrescu et al. teaches the limitation as discuss but fail to teach and if it is, completing the location procedure and reporting measurement results in a message from the mobile station to a target radio network controller.” The Examiner further asserts that Ida et al. teach “and if it is, completing the location procedure and reporting measurement results in a message from the mobile station to a target radio network controller.” In the “Response to Arguments” section, the Examiner responds to Applicant’s previous arguments by asserting that Ida et al. “teaches determining if a location procedure is on going in the mobile station (Examiner further cited Paragraphs [0053], [0057], teach mobile station moves and change it present location means as location procedure is on going in the mobile station and Fig. 1, No. 11, illustrate location generating means as determining location procedure.”

With respect to claim 1, Applicant respectfully replies that, contrary to the Examiner’s assertions, Ida et al. do not teach reporting measurement results in a message from the mobile station to a **target** radio network controller as claimed. In addition, neither Demetrescu et al. nor Ida et al. teach or disclose determining if a location procedure is ongoing in the mobile station upon an occurrence of a RR procedure as claimed. Specifically, Demetrescu et al. does not teach this element at the Examiner’s disclosed citation or elsewhere. Likewise,

while the Examiner is correct that, in the previous Office Action, the Examiner further cited paragraphs [0053], [0057], and Fig. 1, No. 11 of Ida et al., these references likewise fail to teach the above noted element.

The Examiner cited paragraphs [0025-0027], [0089-0090] as teaching “reporting measurement results in a message from the mobile station to a target radio network controller” and further cited Fig. 16, No. 4. Paragraphs [0025-0027], [0089-0090] are reproduced below. As is evident, these paragraphs do not disclose communication with a network element above the level of a base transceiver station. In contrast, claim 1 recites reporting measurement results to a target network controller. It is noted that Fig. 16, No. 4 is described as a “base transceiver station control apparatus (RNC)”. However, Ida et al. do not disclose a target radio network controller. As Ida et al. teach at paragraph [0053] (describing Fig. 16):

When however the mobile station moves and changes its present location and, as in the case of the illustrated mobile station 3, enters a region 5 where it can communicate with both the base transceiver station (B) 2 and the base transceiver station (C) 2, the radio channel with the base transceiver station currently used by the mobile station 3 has to be switched from the base transceiver station A to the base transceiver station B or from the base transceiver station A to the base transceiver station C. This switching is mainly determined by the base transceiver station host equipment 4 in accordance with the magnitude of the levels of reception of the signals from the base transceiver stations 2 at the mobile station 3. **At the time of switching, the same data is transmitted from the base transceiver station (A, B (or A, C) etc) to the same mobile station. This state is called "handover".** In particular, in a CDMA system, "soft handover" where there is no break in the sound during conversation is possible. **The present invention relates to control of the downlink transmission power to a mobile station at the base transceiver stations in the middle of such handover.**

As is evident based on the totality of the description of Ida et al., what they teach is an inter-RNC handover. As a result, Ida et al. teach neither a source RNC or a target RNC. As a result, Ida et al. fail to disclose the recited element “target network controller.” For this reason alone, claim 1 is in condition for allowance.

Continuing, and turning first to Demetrescu et al., the Examiner cited C2, L1-24, L56-67, C3, L17-55 as teaching “radio transmission in handover and selected cell wherein measurement are report back to network which means as determining if a location procedure is ongoing in the mobile station.” In fact, Demetrescu et al. does not teach, at the Examiner’s citations or elsewhere, determining if a location procedure is ongoing in the mobile station as claimed.

At C2, L1-24, L56-67, Demetrescu et al. discloses “a network having reporting means for causing the mobile station to take and report back measurements on a given list of cells” and “This flexibility allows the network to indicate which measurements it requires the mobile station (MS) to make (Packet Measurement Order), for the mobile station to report these measurements to the network (Packet Measurement Report) and to force the mobile station to reselect a given cell (Packet Cell Change Order)”. At C3, L17-55, Demetrescu et al. discloses “In order for pseudo GSM handovers to take place, the mobile station must report measurements back to the network. ... In NC2 (NC3) the mobile station is instructed to take and report measurements on a given list of cells. The natural choice of measurements to take would be those currently taken by a GSM mobile station in order to perform handover measurements.” It is further disclosed that:

The mobile reports back measurements to the network. The network then decides that a handover should take place for the given mobile based on network specific handover criteria. Or alternatively the mobile decides on local criteria that a handover is required. This alternative is in keeping with GPRS/EGPRS mobile station autonomy in cell reselection. When the mobile decides that a handover is required, it signals this by sending a Packet Cell Change Request message.

As is evident, there is no mention, at the Examiner’s citations, of determining if a location procedure is ongoing upon an occurrence of a RR procedure. In fact, there is no mention of a location procedure. A text search of Demetrescu et al. similarly reveals no instances of the word “location”.

Turning now to the teachings of Ida et al., the Examiner respectfully disagreed with the Applicant’s previous response while asserting that Ida et al. teach “determining if a

location procedure is on going in the mobile station (Examiner further cited Paragraphs [0053], [0057], teach mobile station moves and change it present location means as location procedure is on going in the mobile station and Fig. 1, No. 11, illustrate location generating means as determining location procedure.” Applicants respectfully assert that neither paragraph [0053], [0057], nor Fig. 1, No. 11 teach “determining if a location procedure is ongoing in the mobile station” as recited in claim 1.

Paragraph [0057] states:

The mobile station location information generating means 11, when provided in a mobile station, **transmits location information of the mobile station measured by the mobile station to a base transceiver station in communication with it when the quality of the signal received from the base transceiver station in communication with it falls below a predetermined quality.** For example, when the quality (for example, received field strength) of a signal received from a base transceiver station in communication with it is below a predetermined quality (for example, level), which is a condition for transmission of a signal reporting the received field strengths of signals received from the base transceiver station in communication with it and another base transceiver station adjoining that base transceiver station and triggering the conditional start of handover, **the means transmits the location information of that mobile station measured by that mobile station to the base transceiver station in communication with it.** Alternatively, this is when a quality above that predetermined quality (for example, a level of that level plus a predetermined level) is not reached. (emphasis added).

As is clearly evident, Ida et al. disclose transmitting location information from a mobile station to a base transceiver station when a received signal quality is sufficiently low so as to trigger the start of handover. There is no disclosure of determining if a location procedure is ongoing in the mobile station upon an occurrence of a RR procedure.

It is therefore evident that neither Demetrescu et al. nor Ida et al. teach determining if a location procedure is ongoing in the mobile station upon an occurrence of a RR procedure as recited in claim 1. As neither Demetrescu et al. nor Ida et al. individually teach this element, their combination, such a combination neither suggested nor deemed proper, likewise fails to teach this element of claim 1. For this reason alone, claim 1 is in condition

for allowance. Both of claims 15 and 29 recite language similar to that of claim 1 and are likewise in condition for allowance.

In the interest of completeness, Applicant once again addresses the Examiner's citation of paragraphs [0025-0027], [0089-0090], and Figure 16 (no. 4) of Ida et al. as teaching "determining if a location procedure is ongoing in the mobile station and, if it is, completing the location procedure and reporting measurement results in a message from the mobile station to a target radio network controller", as in claims 1 and 15.

What Ida et al. actually disclose in these paragraphs is as follows:

[0025] a requesting means for transmitting a request for raising the transmission power at the time of handoff and [0026] a mobile station location information generating means for **measuring the position of the mobile station and transmitting the measured location information to a communicating base transceiver station before transmitting the request when the quality of the received signal from the communicating base transceiver station falls below a predetermined quality.**

[0027] Note that regarding the "predetermined quality", when the quality (for example, received field strength) of a signal received from a base transceiver station in communication with it is below a predetermined quality (for example, level), which is a condition for transmission of a signal reporting the received field strengths of signals received from the base transceiver station in communication with it and another base transceiver station adjoining that base transceiver station and **triggering the conditional start of handover, the mobile station transmits the measured location information of that mobile station to the base transceiver station in communication with it.** Alternatively, this is when a quality above that predetermined quality (for example, a level of that level plus a predetermined level) is not reached.

[0089] Note that **the mobile station location information is transmitted to the base transceiver station in communication with the mobile station when the quality of the signal received from the base transceiver station in communication with the mobile station falls below a predetermined quality.** That is, the mobile station location information generating unit 21 is provided with a quality decision function for detecting the quality of the signal received from at least the base transceiver station in communication with the mobile station, comparing

this with a predetermined quality, and deciding if that quality has fallen below that predetermined quality. For example, when the quality (for example, received field strength) of a signal received from a base transceiver station in communication with it is below a predetermined quality (for example, level), which is a condition for transmission of a signal reporting the received field strengths of signals received from the base transceiver station in communication with it and another base transceiver station adjoining that base transceiver station and **triggering the conditional start of handover, the mobile station transmits the location information thereof measured by itself to the base transceiver station in communication with it.** Alternatively, this is when a quality above that predetermined quality (for example, a level of that level plus a predetermined level) is not reached.

[0090] Note that **the location of the mobile station is preferably measured when the quality of the signal received from the base transceiver station in communication with it falls below a predetermined quality (detected by quality decision function), but it may also be measured periodically (by providing a clock function for counting a predetermined time interval using a counter etc. and measuring the location at a timing given by that clock function).** Note that **during handover, the location is preferably measured periodically (similarly using the clock function).** Further, **after the end of handover (after the transmission of the same data from a plurality of base transceiver stations to one mobile station ends), it is preferably again to measure it periodically (similarly using the clock function) or measure it only when the quality of the signal received from the base transceiver station in communication with the mobile station falls below a predetermined quality (similarly using the clock function).** On the other hand, **for transmission of the location information as well, the measured location information is preferably transmitted periodically during handover (similarly using the clock function) or transmitted in accordance with a change of the location of the mobile station such as when detecting movement by a predetermined distance based on the measured position (by providing the mobile station location information generating means with a movement distance computing function for finding by computation that a distance between the location measured at a certain point of time and a position measured later exceeds a predetermined distance and transmitting the information when detecting that the predetermined distance has been exceeded by the computation) or when the mobile station has moved by a predetermined distance in a predetermined time (by providing the mobile station location information generating means with a movement speed computing function for finding by computation the**

distance of movement of the mobile station per unit time based on the positions measured at different points of time and detecting when the distance of movement per unit time exceeds a predetermined distance and transmitting the information when detecting that the movement exceeds the predetermined distance). Further, after the end of handover (after transmission of the same data from a plurality of base transceiver stations to a single mobile station ends), the information is preferably periodically transmitted (similarly using the clock function) or transmitted only when the quality of the signal received from the base transceiver station in communication with the mobile station falls below a predetermined quality (similarly using the quality decision function).

It thus appears that in Ida et al. the mobile station, when the conditional start of handover is triggered, "transmits the location information thereof measured by itself to the base transceiver station in communication with it".

It is thus not understood how the Examiner finds in this disclosure of Ida et al. any subject matter that would suggest to one skilled in the art at least those elements of the independent claims, as in claim 1:

upon an occurrence of a RR procedure, including HO and CRS, that affects the mobile station, **determining if a location procedure is ongoing in the mobile station; and**

if it is, completing the location procedure and reporting measurement results in a message from the mobile station to a target radio network controller;

or as in claim 15 where a mobile station includes:

a controller in said mobile station, responsive to an occurrence of a RR procedure, including HO and CRS, that affects the mobile station, for determining if a location procedure is ongoing in the mobile station and, if it is, for completing the location procedure and for reporting measurement results in a message transmitted from the mobile station to a target radio network controller;

or as in claim 29, where a computer program product causes a data processor to operate with a wireless network comprising operations of:

responsive to an occurrence of a Radio Resources procedure comprising at least one of Handover and Cell Re-selection, **and if a Location Services procedure has been started in a mobile station, completing the Location Services procedure; and**

sending result information regarding the completed Location Services procedure results to a target Radio Network Controller.

The description of the operation of the system of Ida et al. clearly does not disclose or suggest this subject matter, and therefore even if the Ida et al. structure/procedure were somehow combined with the Demetrescu et al. structure/procedure, the resulting combination (which is not admitted is suggested or workable) would still not suggest the claimed subject matter to one skilled in the art, and thus neither would the proposed combination render unpatentable the independent claims 1, 15 and 29.

The foregoing is true at least for the reason that Ida et al. (as well as Demetrescu et al.) do not appear to appreciate that a problem may exist with regard to premature termination of a LCS procedure due to an occurrence of some RR procedure, and thus Ida et al. (with or without Demetrescu et al.) also do not provide a solution for this problem.

The Applicant notes further with regard to Ida et al. that the problem that they address is very different than the problem(s) addressed and solved by the exemplary embodiments of this invention. The problem that Ida et al. attempt to solve is the prevention of a plurality of base stations from increasing their transmitted power, and this is done by commanding only one concerned base station to increase power (see paragraph [0008]). In contradistinction, the exemplary embodiments of this invention are concerned with preventing an interruption of an ongoing location procedure in the mobile station by allowing the measurements to be sent to a target controller. Thus, one skilled in the art would not look to Ida et al. to solve this problem, as Ida et al. teach sending location information to a current base station, not to a target radio network controller as claimed. This being the case, the proposed combination of Ida et al. with Demetrescu et al. is not suggested to one skilled in the art and, even if it were (which is not admitted is the case), the resulting combined disclosures (without admitting that such a combination is technically feasible) would still not suggest the subject matter claimed in this patent application.

In that it has been shown that the independent claims are all clearly patentable over the proposed combination of Demetrescu et al. and Ida et al., then at least for this one reason alone all of the dependent claims are patentable as well whether or not the disclosures of Demetrescu et al. and Ida et al. are further combined with the disclosure of Fried et al. alone or in combination with the disclosure of Parmar et al.

The Examiner is respectfully requested to reconsider and remove the rejection of claims 1-29.

A favorable consideration that results in the allowance of claims 1-29 is earnestly solicited.

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Respectfully submitted:

A handwritten signature in dark ink, appearing to read "Jeffrey R. Ambroziak", written over a horizontal line.

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24 Apr 06

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